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&lt;170&gt; PatentIn Ver. 2.0

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<212> DNA

<213> Homo sapiens

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Gly Pro Phe Val Thr Ala Asp Met Glu Asp Cys Gly Tyr Asn Ile Pro  
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Gln Thr Asp Glu Ser Thr Leu Met Thr Ile Ala Tyr Val Met Ala Ala  
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Ile Cys Ala Leu Phe Met Leu Pro Leu Cys Leu Met Val Cys Gln Trp  
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Asn Gly Lys Trp Asp Ser Asp Pro Ser Gly Thr Lys Thr Cys Ile Asp
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Thr Lys Glu Gly Ile Leu Gln Tyr Cys Gln Glu Val Tyr Pro Glu Leu
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Gln Ile Thr Asn Val Val Glu Ala Asn Gln Pro Val Thr Ile Gln Asn
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Trp Cys Lys Arg Gly Arg Lys Gln Cys Lys Thr His Pro His Phe Val
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Ile Pro Tyr Arg Cys Leu Val Gly Glu Phe Val Ser Asp Ala Leu Leu
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Phe Phe Glu Gln Met Gln Asn  
690 695

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Pro Trp His Ser Phe Gly Ala Asp Ser Val Pro Ala Asn Thr Glu Asn  
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Glu Val Glu Pro Val Asp Ala Arg Pro Ala Ala Asp Arg Gly Leu Thr  
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Thr Arg Pro Gly Ser Gly Leu Thr Asn Ile Lys Thr Glu Glu Ile Ser  
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Glu Val Asn Leu Asp Ala Glu Phe Arg His Asp Ser Gly Tyr Glu Val  
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His His Gln Lys Leu Val Phe Phe Ala Glu Asp Val Gly Ser Asn Lys  
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Gly Ala Ile Ile Gly Leu Met Val Gly Gly Val Val Ile Ala Thr Val  
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Ile Val Ile Thr Leu Val Met Leu Lys Lys Lys Gln Tyr Thr Ser Ile  
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Gln	Ile	Ala	Met	Phe	Cys	Gly	Arg	Leu	Asn	Met	His	Met	Asn	Val	Gln	35	40	45	
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Thr	Lys	Glu	Gly	Ile	Leu	Gln	Tyr	Cys	Gln	Glu	Val	Tyr	Pro	Glu	Leu	65	70	75	80
Gln	Ile	Thr	Asn	Val	Val	Glu	Ala	Asn	Gln	Pro	Val	Thr	Ile	Gln	Asn	85	90	95	
Trp	Cys	Lys	Arg	Gly	Arg	Lys	Gln	Cys	Lys	Thr	His	Pro	His	Phe	Val	100	105	110	
Ile	Pro	Tyr	Arg	Cys	Leu	Val	Gly	Glu	Phe	Val	Ser	Asp	Ala	Leu	Leu	115	120	125	
Val	Pro	Asp	Lys	Cys	Lys	Phe	Leu	His	Gln	Glu	Arg	Met	Asp	Val	Cys	130	135	140	
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Lys	Ser	Thr	Asn	Leu	His	Asp	Tyr	Gly	Met	Leu	Leu	Pro	Cys	Gly	Ile	165	170	175	
Asp	Lys	Phe	Arg	Gly	Val	Glu	Phe	Val	Cys	Cys	Pro	Leu	Ala	Glu	Glu	180	185	190	
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Gln	Glu 370	Ala	Ala	Asn	Glu	Arg 375	Gln	Gln	Leu	Val	Glu 380	Thr	His	Met	Ala
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Tyr	Ser	Asp	Asp 500	Val	Leu	Ala	Asn	Met 505	Ile	Ser	Glu	Pro	Arg 510	Ile	Ser
Tyr	Gly	Asn 515	Asp	Ala	Leu	Met	Pro 520	Ser	Leu	Thr	Glu	Thr 525	Lys	Thr	Thr
Val	Glu 530	Leu	Leu	Pro	Val	Asn 535	Gly	Glu	Phe	Ser	Leu 540	Asp	Asp	Leu	Gln
Pro 545	Trp	His	Ser	Phe	Gly 550	Ala	Asp	Ser	Val	Pro 555	Ala	Asn	Thr	Glu	Asn 560
Glu	Val	Glu	Pro	Val 565	Asp	Ala	Arg	Pro	Ala 570	Ala	Asp	Arg	Gly	Leu 575	Thr
Thr	Arg	Pro	Gly 580	Ser	Gly	Leu	Thr	Asn 585	Ile	Lys	Thr	Glu	Glu 590	Ile	Ser
Glu	Val	Lys 595	Met	Asp	Ala	Glu	Phe 600	Arg	His	Asp	Ser	Gly 605	Tyr	Glu	Val
His	His 610	Gln	Lys	Leu	Val	Phe 615	Phe	Ala	Glu	Asp	Val 620	Gly	Ser	Asn	Lys
Gly 625	Ala	Ile	Ile	Gly	Leu 630	Met	Val	Gly	Gly	Val 635	Val	Ile	Ala	Thr	Val 640

Ile Phe Ile Thr Leu Val Met Leu Lys Lys Lys Gln Tyr Thr Ser Ile  
645 650 655

His His Gly Val Val Glu Val Asp Ala Ala Val Thr Pro Glu Glu Arg  
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<212> DNA  
<213> Homo sapiens

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<211> 446  
<212> PRT  
<213> Homo sapiens

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Gly Leu Arg Leu Pro Arg Glu Thr Asp Glu Glu Pro Glu Glu Pro Gly  
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Arg Arg Gly Ser Phe Val Glu Met Val Asp Asn Leu Arg Gly Lys Ser  
50 55 60

00230409950

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Thr	Tyr	Arg 115	Asp	Leu	Arg	Lys	Gly 120	Val	Tyr	Val	Pro	Tyr 125	Thr	Gln	Gly
Lys 130	Trp	Glu	Gly	Glu	Leu	Gly 135	Thr	Asp	Leu	Val	Ser 140	Ile	Pro	His	Gly
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Lys	Phe	Phe	Ile	Asn 165	Gly	Ser	Asn	Trp	Glu 170	Gly	Ile	Leu	Gly	Leu 175	Ala
Tyr	Ala	Glu	Ile 180	Ala	Arg	Pro	Asp	Asp 185	Ser	Leu	Glu	Pro	Phe	Phe 190	Asp
Ser	Leu	Val 195	Lys	Gln	Thr	His	Val 200	Pro	Asn	Leu	Phe	Ser 205	Leu	His	Leu
Cys 210	Gly	Ala	Gly	Phe	Pro	Leu 215	Asn	Gln	Ser	Glu	Val 220	Leu	Ala	Ser	Val
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Ser	Leu	Trp	Tyr	Thr 245	Pro	Ile	Arg	Arg	Glu 250	Trp	Tyr	Tyr	Glu	Val 255	Ile
Ile	Val	Arg	Val 260	Glu	Ile	Asn	Gly	Gln 265	Asp	Leu	Lys	Met	Asp 270	Cys	Lys
Glu	Tyr	Asn 275	Tyr	Asp	Lys	Ser	Ile 280	Val	Asp	Ser	Gly	Thr 285	Thr	Asn	Leu
Arg 290	Leu	Pro	Lys	Lys	Val	Phe 295	Glu	Ala	Ala	Val 300	Lys	Ser	Ile	Lys	Ala
Ala 305	Ser	Ser	Thr	Glu	Lys 310	Phe	Pro	Asp	Gly	Phe 315	Trp	Leu	Gly	Glu	Gln 320
Leu	Val	Cys	Trp	Gln 325	Ala	Gly	Thr	Thr	Pro 330	Trp	Asn	Ile	Phe	Pro 335	Val
Ile	Ser	Leu	Tyr 340	Leu	Met	Gly	Glu	Val 345	Thr	Asn	Gln	Ser	Phe 350	Arg	Ile
Thr	Ile	Leu 355	Pro	Gln	Gln	Tyr	Leu 360	Arg	Pro	Val	Glu	Asp 365	Val	Ala	Thr
Ser 370	Gln	Asp	Asp	Cys	Tyr	Lys 375	Phe	Ala	Ile	Ser	Gln 380	Ser	Ser	Thr	Gly
Thr 385	Val	Met	Gly	Ala	Val 390	Ile	Met	Glu	Gly	Phe 395	Tyr	Val	Val	Phe	Asp 400

002250 + 002250



Arg Ala Arg Lys Arg Ile Gly Phe Ala Val Ser Ala Cys His Val His  
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<213> Homo sapiens

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<211> 459  
<212> PRT  
<213> Homo sapiens

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35 40 45  
Leu Pro Arg Glu Thr Asp Glu Glu Pro Glu Glu Pro Gly Arg Arg Gly  
50 55 60  
Ser Phe Val Glu Met Val Asp Asn Leu Arg Gly Lys Ser Gly Gln Gly  
65 70 75 80  
Tyr Tyr Val Glu Met Thr Val Gly Ser Pro Pro Gln Thr Leu Asn Ile  
85 90 95

Leu	Val	Asp	Thr	Gly	Ser	Ser	Asn	Phe	Ala	Val	Gly	Ala	Ala	Pro	His
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Pro	Phe	Leu	His	Arg	Tyr	Tyr	Gln	Arg	Gln	Leu	Ser	Ser	Thr	Tyr	Arg
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Asp	Leu	Arg	Lys	Gly	Val	Tyr	Val	Pro	Tyr	Thr	Gln	Gly	Lys	Trp	Glu
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Gly	Glu	Leu	Gly	Thr	Asp	Leu	Val	Ser	Ile	Pro	His	Gly	Pro	Asn	Val
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Thr	Val	Arg	Ala	Asn	Ile	Ala	Ala	Ile	Thr	Glu	Ser	Asp	Lys	Phe	Phe
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Ile	Asn	Gly	Ser	Asn	Trp	Glu	Gly	Ile	Leu	Gly	Leu	Ala	Tyr	Ala	Glu
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Ile	Ala	Arg	Pro	Asp	Asp	Ser	Leu	Glu	Pro	Phe	Phe	Asp	Ser	Leu	Val
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Lys	Gln	Thr	His	Val	Pro	Asn	Leu	Phe	Ser	Leu	His	Leu	Cys	Gly	Ala
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Met	Ile	Ile	Gly	Gly	Ile	Asp	His	Ser	Leu	Tyr	Thr	Gly	Ser	Leu	Trp
				245					250					255	
Tyr	Thr	Pro	Ile	Arg	Arg	Glu	Trp	Tyr	Tyr	Glu	Val	Ile	Ile	Val	Arg
			260					265					270		
Val	Glu	Ile	Asn	Gly	Gln	Asp	Leu	Lys	Met	Asp	Cys	Lys	Glu	Tyr	Asn
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Tyr	Asp	Lys	Ser	Ile	Val	Asp	Ser	Gly	Thr	Thr	Asn	Leu	Arg	Leu	Pro
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Lys	Lys	Val	Phe	Glu	Ala	Ala	Val	Lys	Ser	Ile	Lys	Ala	Ala	Ser	Ser
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Thr	Glu	Lys	Phe	Pro	Asp	Gly	Phe	Trp	Leu	Gly	Glu	Gln	Leu	Val	Cys
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Trp	Gln	Ala	Gly	Thr	Thr	Pro	Trp	Asn	Ile	Phe	Pro	Val	Ile	Ser	Leu
			340					345					350		
Tyr	Leu	Met	Gly	Glu	Val	Thr	Asn	Gln	Ser	Phe	Arg	Ile	Thr	Ile	Leu
		355					360					365			
Pro	Gln	Gln	Tyr	Leu	Arg	Pro	Val	Glu	Asp	Val	Ala	Thr	Ser	Gln	Asp
	370					375					380				
Asp	Cys	Tyr	Lys	Phe	Ala	Ile	Ser	Gln	Ser	Ser	Thr	Gly	Thr	Val	Met
385					390					395					400
Gly	Ala	Val	Ile	Met	Glu	Gly	Phe	Tyr	Val	Val	Phe	Asp	Arg	Ala	Arg
				405					410					415	
Lys	Arg	Ile	Gly	Phe	Ala	Val	Ser	Ala	Cys	His	Val	His	Asp	Glu	Phe
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002234-00334

Cys Gly Tyr Asn Ile Pro Gln Thr Asp Glu Ser  
450 455

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<211> 433
<212> PRT
<213> Homo sapiens
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Glu Pro Gly Arg Arg Gly Ser Phe Val Glu Met Val Asp Asn Leu Arg
          35                      40                        45
Gly Lys Ser Gly Gln Gly Tyr Tyr Val Glu Met Thr Val Gly Ser Pro
    50                          55              60
Pro Gln Thr Leu Asn Ile Leu Val Asp Thr Gly Ser Ser Asn Phe Ala
  65                    70                  75           .   80
Val Gly Ala Ala Pro His Pro Phe Leu His Arg Tyr Tyr Gln Arg Gln
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Leu Ser Ser Thr Tyr Arg Asp Leu Arg Lys Gly Val Tyr Val Pro Tyr
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Ser

<400> 27

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<210> 28
<211> 425
<212> PRT
<213> Homo sapiens
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<400> 28

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Val	Glu	Met 35	Val	Asp	Asn	Leu	Arg 40	Gly	Lys	Ser	Gly	Gln 45	Gly	Tyr	Tyr
Val	Glu 50	Met	Thr	Val	Gly	Ser 55	Pro	Pro	Gln	Thr	Leu 60	Asn	Ile	Leu	Val
Asp 65	Thr	Gly	Ser	Ser	Asn 70	Phe	Ala	Val	Gly	Ala 75	Ala	Pro	His	Pro	Phe 80
Leu	His	Arg	Tyr	Tyr 85	Gln	Arg	Gln	Leu	Ser 90	Ser	Thr	Tyr	Arg	Asp 95	Leu
Arg	Lys	Gly	Val 100	Tyr	Val	Pro	Tyr	Thr 105	Gln	Gly	Lys	Trp	Glu 110	Gly	Glu
Leu	Gly	Thr 115	Asp	Leu	Val	Ser	Ile 120	Pro	His	Gly	Pro	Asn 125	Val	Thr	Val
Arg	Ala 130	Asn	Ile	Ala	Ala	Ile 135	Thr	Glu	Ser	Asp	Lys 140	Phe	Phe	Ile	Asn

Gly	Ser	Asn	Trp	Glu	Gly	Ile	Leu	Gly	Leu	Ala	Tyr	Ala	Glu	Ile	Ala	145	150	155	160
Arg	Pro	Asp	Asp	Ser	Leu	Glu	Pro	Phe	Phe	Asp	Ser	Leu	Val	Lys	Gln	165	170	175	
Thr	His	Val	Pro	Asn	Leu	Phe	Ser	Leu	His	Leu	Cys	Gly	Ala	Gly	Phe	180	185	190	
Pro	Leu	Asn	Gln	Ser	Glu	Val	Leu	Ala	Ser	Val	Gly	Gly	Ser	Met	Ile	195	200	205	
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Pro	Ile	Arg	Arg	Glu	Trp	Tyr	Tyr	Glu	Val	Ile	Ile	Val	Arg	Val	Glu	225	230	235	240
Ile	Asn	Gly	Gln	Asp	Leu	Lys	Met	Asp	Cys	Lys	Glu	Tyr	Asn	Tyr	Asp	245	250	255	
Lys	Ser	Ile	Val	Asp	Ser	Gly	Thr	Thr	Asn	Leu	Arg	Leu	Pro	Lys	Lys	260	265	270	
Val	Phe	Glu	Ala	Ala	Val	Lys	Ser	Ile	Lys	Ala	Ala	Ser	Ser	Thr	Glu	275	280	285	
Lys	Phe	Pro	Asp	Gly	Phe	Trp	Leu	Gly	Glu	Gln	Leu	Val	Cys	Trp	Gln	290	295	300	
Ala	Gly	Thr	Thr	Pro	Trp	Asn	Ile	Phe	Pro	Val	Ile	Ser	Leu	Tyr	Leu	305	310	315	320
Met	Gly	Glu	Val	Thr	Asn	Gln	Ser	Phe	Arg	Ile	Thr	Ile	Leu	Pro	Gln	325	330	335	
Gln	Tyr	Leu	Arg	Pro	Val	Glu	Asp	Val	Ala	Thr	Ser	Gln	Asp	Asp	Cys	340	345	350	
Tyr	Lys	Phe	Ala	Ile	Ser	Gln	Ser	Ser	Thr	Gly	Thr	Val	Met	Gly	Ala	355	360	365	
Val	Ile	Met	Glu	Gly	Phe	Tyr	Val	Val	Phe	Asp	Arg	Ala	Arg	Lys	Arg	370	375	380	
Ile	Gly	Phe	Ala	Val	Ser	Ala	Cys	His	Val	His	Asp	Glu	Phe	Arg	Thr	385	390	395	400
Ala	Ala	Val	Glu	Gly	Pro	Phe	Val	Thr	Leu	Asp	Met	Glu	Asp	Cys	Gly	405	410	415	
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<211> 1362

<212> DNA

<213> Homo sapiens

<400> 29

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 <212> PRT  
 <213> Homo sapiens

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 Leu Pro Ala His Gly Thr Gln His Gly Ile Arg Leu Pro Leu Arg Ser  
 20 25 30  
 Gly Leu Gly Gly Ala Pro Leu Gly Leu Arg Leu Pro Arg Glu Thr Asp  
 35 40 45  
 Glu Glu Pro Glu Glu Pro Gly Arg Arg Gly Ser Phe Val Glu Met Val  
 50 55 60  
 Asp Asn Leu Arg Gly Lys Ser Gly Gln Gly Tyr Tyr Val Glu Met Thr  
 65 70 75 80  
 Val Gly Ser Pro Pro Gln Thr Leu Asn Ile Leu Val Asp Thr Gly Ser  
 85 90 95  
 Ser Asn Phe Ala Val Gly Ala Ala Pro His Pro Phe Leu His Arg Tyr  
 100 105 110  
 Tyr Gln Arg Gln Leu Ser Ser Thr Tyr Arg Asp Leu Arg Lys Gly Val  
 115 120 125  
 Tyr Val Pro Tyr Thr Gln Gly Lys Trp Glu Gly Glu Leu Gly Thr Asp  
 130 135 140  
 Leu Val Ser Ile Pro His Gly Pro Asn Val Thr Val Arg Ala Asn Ile  
 145 150 155 160  
 Ala Ala Ile Thr Glu Ser Asp Lys Phe Phe Ile Asn Gly Ser Asn Trp  
 165 170 175

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Glu Gly Ile Leu Gly Leu Ala Tyr Ala Glu Ile Ala Arg Pro Asp Asp  
180 185 190

Ser Leu Glu Pro Phe Phe Asp Ser Leu Val Lys Gln Thr His Val Pro  
195 200 205

Asn Leu Phe Ser Leu Gln Leu Cys Gly Ala Gly Phe Pro Leu Asn Gln  
210 215 220

Ser Glu Val Leu Ala Ser Val Gly Gly Ser Met Ile Ile Gly Gly Ile  
225 230 235 240

Asp His Ser Leu Tyr Thr Gly Ser Leu Trp Tyr Thr Pro Ile Arg Arg  
245 250 255

Glu Trp Tyr Tyr Glu Val Ile Ile Val Arg Val Glu Ile Asn Gly Gln  
260 265 270

Asp Leu Lys Met Asp Cys Lys Glu Tyr Asn Tyr Asp Lys Ser Ile Val  
275 280 285

Asp Ser Gly Thr Thr Asn Leu Arg Leu Pro Lys Lys Val Phe Glu Ala  
290 295 300

Ala Val Lys Ser Ile Lys Ala Ala Ser Ser Thr Glu Lys Phe Pro Asp  
305 310 315 320

Gly Phe Trp Leu Gly Glu Gln Leu Val Cys Trp Gln Ala Gly Thr Thr  
325 330 335

Pro Trp Asn Ile Phe Pro Val Ile Ser Leu Tyr Leu Met Gly Glu Val  
340 345 350

Thr Asn Gln Ser Phe Arg Ile Thr Ile Leu Pro Gln Gln Tyr Leu Arg  
355 360 365

Pro Val Glu Asp Val Ala Thr Ser Gln Asp Asp Cys Tyr Lys Phe Ala  
370 375 380

Ile Ser Gln Ser Ser Thr Gly Thr Val Met Gly Ala Val Ile Met Glu  
385 390 395 400

Gly Phe Tyr Val Val Phe Asp Arg Ala Arg Lys Arg Ile Gly Phe Ala  
405 410 415

Val Ser Ala Cys His Val His Asp Glu Phe Arg Thr Ala Ala Val Glu  
420 425 430

Gly Pro Phe Val Thr Leu Asp Met Glu Asp Cys Gly Tyr Asn Ile Pro  
435 440 445

Gln Thr Asp Glu Ser  
450

<210> 31

<211> 1380

<212> DNA

<213> Homo sapiens

<400> 31

atggcccaag ccctgccctg gctcctgctg tggatgggcg cgggagtgct gcctgcccac 60

002260-4439960

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<210> 32
<211> 459
<212> PRT
<213> Homo sapiens

<400> 32
Met Ala Gln Ala Leu Pro Trp Leu Leu Leu Trp Met Gly Ala Gly Val
  1          5          10          15
Leu Pro Ala His Gly Thr Gln His Gly Ile Arg Leu Pro Leu Arg Ser
          20          25          30
Gly Leu Gly Gly Ala Pro Leu Gly Leu Arg Leu Pro Arg Glu Thr Asp
          35          40          45
Glu Glu Pro Glu Glu Pro Gly Arg Arg Gly Ser Phe Val Glu Met Val
          50          55          60
Asp Asn Leu Arg Gly Lys Ser Gly Gln Gly Tyr Tyr Val Glu Met Thr
  65          70          75          80
Val Gly Ser Pro Pro Gln Thr Leu Asn Ile Leu Val Asp Thr Gly Ser
          85          90          95
Ser Asn Phe Ala Val Gly Ala Ala Pro His Pro Phe Leu His Arg Tyr
          100          105          110
Tyr Gln Arg Gln Leu Ser Ser Thr Tyr Arg Asp Leu Arg Lys Gly Val
          115          120          125
Tyr Val Pro Tyr Thr Gln Gly Lys Trp Glu Gly Glu Leu Gly Thr Asp
          130          135          140
Leu Val Ser Ile Pro His Gly Pro Asn Val Thr Val Arg Ala Asn Ile
  145          150          155          160
Ala Ala Ile Thr Glu Ser Asp Lys Phe Phe Ile Asn Gly Ser Asn Trp
          165          170          175

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<210> 33
<211> 25
<212> PRT
<213> Homo sapiens
<400> 33
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Ser Glu Gln Gln Arg Arg Pro Arg Asp Pro Glu Val Val Asn Asp Glu  
1 5 10 15

Ser Ser Leu Val Arg His Arg Trp Lys  
20 25

<210> 34  
<211> 19  
<212> PRT  
<213> Homo sapiens

<400> 34  
Ser Glu Gln Leu Arg Gln Gln His Asp Asp Phe Ala Asp Asp Ile Ser  
1 5 10 15

Leu Leu Lys

<210> 35  
<211> 29  
<212> DNA  
<213> Homo sapiens

<400> 35  
gtggatccac ccagcacggc atccggctg 29

<210> 36  
<211> 36  
<212> DNA  
<213> Homo sapiens

<400> 36  
gaaagctttc atgactcatc tgtctgtgga atgttg 36

<210> 37  
<211> 39  
<212> DNA  
<213> Homo sapiens

<400> 37  
gatcgatgac tatctctgac tctccgcgtg aacaggacg 39

<210> 38  
<211> 39  
<212> DNA  
<213> Homo sapiens

<400> 38  
gatccgtcct gttcacgcgg agagtcagag atagtcac 39

<210> 39  
<211> 77  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Hu-Asp2

<400> 39  
cggcacccgg ctgcccctgc gtagcgggtct ggggtgggtgct ccaactgggtc tgcgtctgcc 60  
ccgggagacc gacgaag 77

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<210> 46  
<211> 24  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: 6-His tag

<400> 46  
gatccatggg gatgggtgatg atgc 24

<210> 47  
<211> 22  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: primer

<400> 47  
gactgaccac tcgaccaggt tc 22

<210> 48  
<211> 51  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: primer

<400> 48  
cgaattaaat tccagcacac tggctacttc ttgttctgca tctcaaagaa c 51

<210> 49  
<211> 26  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: primer

<400> 49  
cgaattaaat tccagcacac tggcta 26

<210> 50  
<211> 1287  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Hu-Asp2(b)  
delta TM

<400> 50  
atggcccaag ccctgccctg gctcctgctg tggatgggag cgggagtgct gcctgcccac 60  
ggcaccacag acggcatccg gctgcccctg cgcagcggcc tgggggggag cccctggggg 120  
ctgcgggctgc cccgggagac cgacgaagag cccgaggagc ccggccggag gggcagcttt 180  
gtggagatgg tggacaacct gaggggcaag tcggggcagg gctactacgt ggagatgacc 240  
gtgggcagcc ccccgagac gctcaacatc ctggtggata caggcagcag taactttgca 300  
gtgggtgctg ccccccaccc cttcctgcat cgctactacc agaggcagct gtccagcaca 360  
taccgggacc tccggaaggg tgtgtatgtg ccctacaccc agggcaagtg ggaaggggag 420  
ctgggcaccg acctggtaag catcccccat ggccccaacg tcaactgtgcg tgccaacatt 480  
gctgccatca ctgaatcaga caagttcttc atcaacggct ccaactggga aggcacccctg 540

0969314-09600

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gggctggcct atgctgagat tgccaggcct tgtggtgctg gcttccccct caaccagtct 600
gaagtgctgg cctctgtcgg agggagcatg atcattggag gtatcgacca ctcgctgtac 660
acaggcagtc tctggtatac acccatccgg cgggagtggg attatgaggt catcattgtg 720
cgggtggaga tcaatggaca ggatctgaaa atggactgca aggagtacaa ctatgacaag 780
agcattgtgg acagtggcac caccaacctt cgtttgccca agaaagtgtt tgaagctgca 840
gtcaaatacca tcaaggcagc ctctccacg gagaagtcc ctgatgggtt ctggctagga 900
gagcagctgg tgtgctggca agcaggcacc accccttgga acattttccc agtcattctca 960
ctctacctaa tgggtgaggt taccaaccag tccttccgca tcaccatcct tccgcagcaa 1020
tacctgcggc cagtggaaga tgtggccacg tcccaagacg actggtacaa gtttgccatc 1080
tcacagtcac ccacgggcac tggtatggga gctgttatca tggagggtt ctacgttgctc 1140
tttgatcggg cccgaaaacg aattggcttt gctgtcagcg cttgccatgt gcacgatgag 1200
ttcaggacgg cagcgggtgga aggcctttt gtcaccttgg acatggaaga ctgtggctac 1260
aacattccac agacagatga gtcatga 1287

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<210> 51  
 <211> 428  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: Hu-Asp2(b)  
 delta TM

<400> 51  
 Met Ala Gln Ala Leu Pro Trp Leu Leu Leu Trp Met Gly Ala Gly Val  
     1                    5                    10                    15  
 Leu Pro Ala His Gly Thr Gln His Gly Ile Arg Leu Pro Leu Arg Ser  
                     20                    25                    30  
 Gly Leu Gly Gly Ala Pro Leu Gly Leu Arg Leu Pro Arg Glu Thr Asp  
                     35                    40                    45  
 Glu Glu Pro Glu Glu Pro Gly Arg Arg Gly Ser Phe Val Glu Met Val  
                     50                    55                    60  
 Asp Asn Leu Arg Gly Lys Ser Gly Gln Gly Tyr Tyr Val Glu Met Thr  
     65                    70                    75                    80  
 Val Gly Ser Pro Pro Gln Thr Leu Asn Ile Leu Val Asp Thr Gly Ser  
                     85                    90                    95  
 Ser Asn Phe Ala Val Gly Ala Ala Pro His Pro Phe Leu His Arg Tyr  
                     100                    105                    110  
 Tyr Gln Arg Gln Leu Ser Ser Thr Tyr Arg Asp Leu Arg Lys Gly Val  
                     115                    120                    125  
 Tyr Val Pro Tyr Thr Gln Gly Lys Trp Glu Gly Glu Leu Gly Thr Asp  
                     130                    135                    140  
 Leu Val Ser Ile Pro His Gly Pro Asn Val Thr Val Arg Ala Asn Ile  
     145                    150                    155                    160  
 Ala Ala Ile Thr Glu Ser Asp Lys Phe Phe Ile Asn Gly Ser Asn Trp  
                     165                    170                    175  
 Glu Gly Ile Leu Gly Leu Ala Tyr Ala Glu Ile Ala Arg Leu Cys Gly  
                     180                    185                    190  
 Ala Gly Phe Pro Leu Asn Gln Ser Glu Val Leu Ala Ser Val Gly Gly  
                     195                    200                    205

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Ser Met Ile Ile Gly Gly Ile Asp His Ser Leu Tyr Thr Gly Ser Leu  
210 215 220

Trp Tyr Thr Pro Ile Arg Arg Glu Trp Tyr Tyr Glu Val Ile Ile Val  
225 230 235 240

Arg Val Glu Ile Asn Gly Gln Asp Leu Lys Met Asp Cys Lys Glu Tyr  
245 250 255

Asn Tyr Asp Lys Ser Ile Val Asp Ser Gly Thr Thr Asn Leu Arg Leu  
260 265 270

Pro Lys Lys Val Phe Glu Ala Ala Val Lys Ser Ile Lys Ala Ala Ser  
275 280 285

Ser Thr Glu Lys Phe Pro Asp Gly Phe Trp Leu Gly Glu Gln Leu Val  
290 295 300

Cys Trp Gln Ala Gly Thr Thr Pro Trp Asn Ile Phe Pro Val Ile Ser  
305 310 315 320

Leu Tyr Leu Met Gly Glu Val Thr Asn Gln Ser Phe Arg Ile Thr Ile  
325 330 335

Leu Pro Gln Gln Tyr Leu Arg Pro Val Glu Asp Val Ala Thr Ser Gln  
340 345 350

Asp Asp Cys Tyr Lys Phe Ala Ile Ser Gln Ser Ser Thr Gly Thr Val  
355 360 365

Met Gly Ala Val Ile Met Glu Gly Phe Tyr Val Val Phe Asp Arg Ala  
370 375 380

Arg Lys Arg Ile Gly Phe Ala Val Ser Ala Cys His Val His Asp Glu  
385 390 395 400

Phe Arg Thr Ala Ala Val Glu Gly Pro Phe Val Thr Leu Asp Met Glu  
405 410 415

Asp Cys Gly Tyr Asn Ile Pro Gln Thr Asp Glu Ser  
420 425

<210> 52  
<211> 1305  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Hu-Asp2(b)  
delta TM

<400> 52  
atggcccaag ccctgccctg gctcctgctg tggatgggag cgggagtgct gcctgcccac 60  
ggcaccacag acggcatccg gctgcccctg cgcagcggcc tgggggggag cccctggggg 120  
ctgcgggctgc cccgggagac cgacgaagag cccgaggagc ccggccggag gggcagcttt 180  
gtggagatgg tggacaacct gaggggcaag tgggggagag gctactacgt ggagatgacc 240  
gtgggcagcc cccgcgagac gctcaacatc ctgggtggata caggcagcag taactttgca 300  
gtgggtgctg ccccccaccc cttcctgcat cgctactacc agaggcagct gtccagcaca 360  
taccgggacc tccggaaggg tgtgtatgtg ccctacaccc agggcaagtg ggaaggggag 420  
ctgggcaccg acctggtaag catcccccat ggccccaacg tcaactgtgc tgccaacatt 480  
gctgccatca ctgaatcaga caagttcttc atcaacggct ccaactggga aggcacccctg 540  
gggctggcct atgctgagat tgccaggctt tgtggtgctg gcttccccct caaccagtct 600

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gaagtgtctgg cctctgtcgg agggagcatg atcattggag gtatcgacca ctgctgtac 660
acaggcagtc tctggtatac acccatccgg cgggagtggg attatgaggt catcattgtg 720
cgggtggaga tcaatggaca ggatctgaaa atggactgca aggagtacaa ctatgacaag 780
agcattgtgg acagtggcac caccaacctt cgtttgcccc agaaagtgtt tgaagctgca 840
gtcaaatcca tcaaggcagc ctctccacg gagaagtcc ctgatgggtt ctggctagga 900
gagcagctgg tgtgctggca agcaggcacc accccttggg acattttccc agtcattctca 960
ctctacctaa tgggtgaggt taccaaccag tccttccgca tcaccatcct tccgcagcaa 1020
tacctgcggc cagtgggaaga tgtggccacg tcccaagacg actgttaciaa gtttgccatc 1080
tcacagtcac ccacgggcac tgttatggga gctgttatca tggagggtt ctacgttgct 1140
tttgatcggg cccgaaaacg aattggcttt gctgtcagcg cttgccatgt gcacgatgag 1200
ttcaggacgg cagcgggtgga aggcctttt gtcaccttgg acatggaaga ctgtggctac 1260
aacattccac agacagatga gtcacagcag cagcagcagc agtga 1305

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<210> 53  
 <211> 434  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: Hu-Asp2(b)  
 delta TM

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<400> 53
Met Ala Gln Ala Leu Pro Trp Leu Leu Leu Trp Met Gly Ala Gly Val
  1          5          10          15
Leu Pro Ala His Gly Thr Gln His Gly Ile Arg Leu Pro Leu Arg Ser
          20          25          30
Gly Leu Gly Gly Ala Pro Leu Gly Leu Arg Leu Pro Arg Glu Thr Asp
          35          40          45
Glu Glu Pro Glu Glu Pro Gly Arg Arg Gly Ser Phe Val Glu Met Val
          50          55          60
Asp Asn Leu Arg Gly Lys Ser Gly Gln Gly Tyr Tyr Val Glu Met Thr
          65          70          75          80
Val Gly Ser Pro Pro Gln Thr Leu Asn Ile Leu Val Asp Thr Gly Ser
          85          90          95
Ser Asn Phe Ala Val Gly Ala Ala Pro His Pro Phe Leu His Arg Tyr
          100          105          110
Tyr Gln Arg Gln Leu Ser Ser Thr Tyr Arg Asp Leu Arg Lys Gly Val
          115          120          125
Tyr Val Pro Tyr Thr Gln Gly Lys Trp Glu Gly Glu Leu Gly Thr Asp
          130          135          140
Leu Val Ser Ile Pro His Gly Pro Asn Val Thr Val Arg Ala Asn Ile
          145          150          155          160
Ala Ala Ile Thr Glu Ser Asp Lys Phe Phe Ile Asn Gly Ser Asn Trp
          165          170          175
Glu Gly Ile Leu Gly Leu Ala Tyr Ala Glu Ile Ala Arg Leu Cys Gly
          180          185          190
Ala Gly Phe Pro Leu Asn Gln Ser Glu Val Leu Ala Ser Val Gly Gly
          195          200          205

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Ser Met Ile Ile Gly Gly Ile Asp His Ser Leu Tyr Thr Gly Ser Leu  
210 215 220

Trp Tyr Thr Pro Ile Arg Arg Glu Trp Tyr Tyr Glu Val Ile Ile Val  
225 230 235 240

Arg Val Glu Ile Asn Gly Gln Asp Leu Lys Met Asp Cys Lys Glu Tyr  
245 250 255

Asn Tyr Asp Lys Ser Ile Val Asp Ser Gly Thr Thr Asn Leu Arg Leu  
260 265 270

Pro Lys Lys Val Phe Glu Ala Ala Val Lys Ser Ile Lys Ala Ala Ser  
275 280 285

Ser Thr Glu Lys Phe Pro Asp Gly Phe Trp Leu Gly Glu Gln Leu Val  
290 295 300

Cys Trp Gln Ala Gly Thr Thr Pro Trp Asn Ile Phe Pro Val Ile Ser  
305 310 315 320

Leu Tyr Leu Met Gly Glu Val Thr Asn Gln Ser Phe Arg Ile Thr Ile  
325 330 335

Leu Pro Gln Gln Tyr Leu Arg Pro Val Glu Asp Val Ala Thr Ser Gln  
340 345 350

Asp Asp Cys Tyr Lys Phe Ala Ile Ser Gln Ser Ser Thr Gly Thr Val  
355 360 365

Met Gly Ala Val Ile Met Glu Gly Phe Tyr Val Val Phe Asp Arg Ala  
370 375 380

Arg Lys Arg Ile Gly Phe Ala Val Ser Ala Cys His Val His Asp Glu  
385 390 395 400

Phe Arg Thr Ala Ala Val Glu Gly Pro Phe Val Thr Leu Asp Met Glu  
405 410 415

Asp Cys Gly Tyr Asn Ile Pro Gln Thr Asp Glu Ser His His His His  
420 425 430

His His

<210> 54  
<211> 2310  
<212> DNA  
<213> Homo sapiens

<400> 54  
atgctgcccg gtttggcact gctcctgctg gccgcctgga cggctcgggc gctggaggta 60  
cccactgatg gtaatgctgg cctgctggct gaaccccaga ttgccatggt ctgtggcaga 120  
ctgaacatgc acatgaatgt ccagaatggg aagtgggatt cagatccatc agggaccaa 180  
acctgcattg ataccaagga aggcattcctg cagtattgcc aagaagtcta ccctgaactg 240  
cagatcacca atgtggtaga agccaaccaa ccagtgacca tccagaactg gtgcaagcgg 300  
ggccgcaagc agtgcaagac ccatacccccac tttgtgattc cctaccgctg cttagttagt 360  
gagtttgtaa gtgatgccct tctcgttcct gacaagtgc aattccttaca ccaggagagg 420  
atggatgttt gcgaaactca tcttcactgg cacaccgtcg ccaaagagac atgcagtgag 480  
aagagtacca acttgcatga ctacggcatg ttgctgccct gcggaattga caagttccga 540  
ggggtagagt ttgtgtgttg cccactggct gaagaaagtg acaatgtgga ttctgctgat 600

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<210> 55
<211> 770
<212> PRT
<213> Homo sapiens

<400> 55
Met Leu Pro Gly Leu Ala Leu Leu Leu Leu Ala Ala Trp Thr Ala Arg
  1          5          10          15
Ala Leu Glu Val Pro Thr Asp Gly Asn Ala Gly Leu Leu Ala Glu Pro
  20          25          30
Gln Ile Ala Met Phe Cys Gly Arg Leu Asn Met His Met Asn Val Gln
  35          40          45
Asn Gly Lys Trp Asp Ser Asp Pro Ser Gly Thr Lys Thr Cys Ile Asp
  50          55          60
Thr Lys Glu Gly Ile Leu Gln Tyr Cys Gln Glu Val Tyr Pro Glu Leu
  65          70          75          80
Gln Ile Thr Asn Val Val Glu Ala Asn Gln Pro Val Thr Ile Gln Asn
  85          90          95
Trp Cys Lys Arg Gly Arg Lys Gln Cys Lys Thr His Pro His Phe Val
  100          105          110
Ile Pro Tyr Arg Cys Leu Val Gly Glu Phe Val Ser Asp Ala Leu Leu
  115          120          125
Val Pro Asp Lys Cys Lys Phe Leu His Gln Glu Arg Met Asp Val Cys
  130          135          140

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Glu	Thr	His	Leu	His	Trp	His	Thr	Val	Ala	Lys	Glu	Thr	Cys	Ser	Glu
145					150					155					160
Lys	Ser	Thr	Asn	Leu	His	Asp	Tyr	Gly	Met	Leu	Leu	Pro	Cys	Gly	Ile
				165					170					175	
Asp	Lys	Phe	Arg	Gly	Val	Glu	Phe	Val	Cys	Cys	Pro	Leu	Ala	Glu	Glu
			180					185					190		
Ser	Asp	Asn	Val	Asp	Ser	Ala	Asp	Ala	Glu	Glu	Asp	Asp	Ser	Asp	Val
		195					200					205			
Trp	Trp	Gly	Gly	Ala	Asp	Thr	Asp	Tyr	Ala	Asp	Gly	Ser	Glu	Asp	Lys
	210					215					220				
Val	Val	Glu	Val	Ala	Glu	Glu	Glu	Glu	Val	Ala	Glu	Val	Glu	Glu	Glu
225					230					235					240
Glu	Ala	Asp	Asp	Asp	Glu	Asp	Asp	Glu	Asp	Gly	Asp	Glu	Val	Glu	Glu
				245					250					255	
Glu	Ala	Glu	Glu	Pro	Tyr	Glu	Glu	Ala	Thr	Glu	Arg	Thr	Thr	Ser	Ile
			260					265							
Ala	Thr	Thr	Thr	Thr	Thr	Thr	Thr	Glu	Ser	Val	Glu	Glu	Val	Val	Arg
		275					280					285			
Glu	Val	Cys	Ser	Glu	Gln	Ala	Glu	Thr	Gly	Pro	Cys	Arg	Ala	Met	Ile
	290					295					300				
Ser	Arg	Trp	Tyr	Phe	Asp	Val	Thr	Glu	Gly	Lys	Cys	Ala	Pro	Phe	Phe
305					310					315					320
Tyr	Gly	Gly	Cys	Gly	Gly	Asn	Arg	Asn	Asn	Phe	Asp	Thr	Glu	Glu	Tyr
				325					330					335	
Cys	Met	Ala	Val	Cys	Gly	Ser	Ala	Met	Ser	Gln	Ser	Leu	Leu	Lys	Thr
			340					345					350		
Thr	Gln	Glu	Pro	Leu	Ala	Arg	Asp	Pro	Val	Lys	Leu	Pro	Thr	Thr	Ala
		355					360					365			
Ala	Ser	Thr	Pro	Asp	Ala	Val	Asp	Lys	Tyr	Leu	Glu	Thr	Pro	Gly	Asp
						375					380				
Glu	Asn	Glu	His	Ala	His	Phe	Gln	Lys	Ala	Lys	Glu	Arg	Leu	Glu	Ala
385					390					395					400
Lys	His	Arg	Glu	Arg	Met	Ser	Gln	Val	Met	Arg	Glu	Trp	Glu	Glu	Ala
				405					410					415	
Glu	Arg	Gln	Ala	Lys	Asn	Leu	Pro	Lys	Ala	Asp	Lys	Lys	Ala	Val	Ile
			420					425					430		
Gln	His	Phe	Gln	Glu	Lys	Val	Glu	Ser	Leu	Glu	Gln	Glu	Ala	Ala	Asn
		435					440					445			
Glu	Arg	Gln	Gln	Leu	Val	Glu	Thr	His	Met	Ala	Arg	Val	Glu	Ala	Met
						455					460				
Leu	Asn	Asp	Arg	Arg	Arg	Leu	Ala	Leu	Glu	Asn	Tyr	Ile	Thr	Ala	Leu
465					470					475					480

0066334-002000

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<210> 56
<211> 2253
<212> DNA
<213> Homo sapiens
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<400> 56
atgctgcccc gtttggcact gctcctgctg gccgcctgga cggctcgggc gctggaggta 60
cccactgatg gtaatgctgg cctgctggct gaaccccaga ttgccatgtt ctgtggcaga 120
ctgaacatgc acatgaatgt ccagaatggg aagtgggatt cagatccatc agggaccaa 180
acctgcattg ataccaagga aggcacccctg cagtattgcc aagaagtcta ccctgaactg 240
cagatcacca atgtggtaga agccaaccaa ccagtgacca tccagaactg gtgcaagcgg 300
ggccgcaagc agtgcaagac ccacccccac tttgtgattc cctaccgctg cttagttggt 360
gagtttgtaa gtgatgccct tctcgttcct gacaagtgca aattcttaca ccaggagagg 420
atggatgttt gcgaaactca tcttcactgg cacaccgtcg ccaaagagac atgcagttag 480
aagagtacca acttgcatga ctacggcatg ttgctgccct gcggaattga caagttccga 540
ggggtagagt ttgtgtgttg cccactggct gaagaaagtg acaatgtgga ttctgctgat 600
gcggaggagg atgactcgga tgtctgggtg ggaggagcag acacagacta tgcagatggg 660
agtgaagaca aagtagtaga agtagcagag gaggaagaag tggctgagggt ggaagaagaa 720
gaagccgatg atgacgagga cgatgaggat ggtgatgagg tagaggaaga ggctgaggaa 780
ccctacgaag aagccacaga gagaaccacc agcattgcc aacaccacc caccaccaca 840
gagtcctgtg aagaggtggt tcgagaggtg tgctctgaac aagccgagac ggggccgtgc 900
cgagcaatga tctcccgctg gtactttgat gtgactgaag ggaagtgtgc cccattcttt 960
tacggcggat gtggcggcaa ccggaacaac tttgacacag aagagtactg catggccgtg 1020
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gagacacctg gggatgagaa tgaacatgcc catttccaga aagccaaaga gaggcttgag 1140
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gcaaagaact tgcctaaagc tgataagaag gcagttatcc agcatttcca ggagaaagtg 1260
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cccaagaaag ccgctcagat ccggtcccag gttatgacac acctccgtgt gatattatgag 1560
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gatgaagttg atgagctgct tcagaaagag caaaactatt cagatgacgt cttggccaac 1680
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gttgatgccc gccctgctgc cgaccgagga ctgaccactc gaccagggtc tgggttgaca 1920
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ttggtgatgc tgaagaagaa acagtacaca tccattcatc atggtgtggt ggaggttgac 2160
gccgctgtca ccccagagga gcgccacctg tccaagatgc agcagaacgg ctacgaaaat 2220
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<210> 57
<211> 751
<212> PRT
<213> Homo sapiens

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<400> 57
Met Leu Pro Gly Leu Ala Leu Leu Leu Leu Ala Ala Trp Thr Ala Arg
 1              5              10              15

Ala Leu Glu Val Pro Thr Asp Gly Asn Ala Gly Leu Leu Ala Glu Pro
      20              25              30

Gln Ile Ala Met Phe Cys Gly Arg Leu Asn Met His Met Asn Val Gln
      35              40              45

Asn Gly Lys Trp Asp Ser Asp Pro Ser Gly Thr Lys Thr Cys Ile Asp
      50              55              60

Thr Lys Glu Gly Ile Leu Gln Tyr Cys Gln Glu Val Tyr Pro Glu Leu
      65              70              75              80

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Gln	Ile	Thr	Asn	Val	Val	Glu	Ala	Asn	Gln	Pro	Val	Thr	Ile	Gln	Asn	
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Trp	Cys	Lys	Arg	Gly	Arg	Lys	Gln	Cys	Lys	Thr	His	Pro	His	Phe	Val	
			100					105					110			
Ile	Pro	Tyr	Arg	Cys	Leu	Val	Gly	Glu	Phe	Val	Ser	Asp	Ala	Leu	Leu	
		115					120					125				
Val	Pro	Asp	Lys	Cys	Lys	Phe	Leu	His	Gln	Glu	Arg	Met	Asp	Val	Cys	
	130					135					140					
Glu	Thr	His	Leu	His	Trp	His	Thr	Val	Ala	Lys	Glu	Thr	Cys	Ser	Glu	
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Lys	Ser	Thr	Asn	Leu	His	Asp	Tyr	Gly	Met	Leu	Leu	Pro	Cys	Gly	Ile	
				165					170					175		
Asp	Lys	Phe	Arg	Gly	Val	Glu	Phe	Val	Cys	Cys	Pro	Leu	Ala	Glu	Glu	
			180					185					190			
Ser	Asp	Asn	Val	Asp	Ser	Ala	Asp	Ala	Glu	Glu	Asp	Asp	Ser	Asp	Val	
		195					200					205				
Trp	Trp	Gly	Gly	Ala	Asp	Thr	Asp	Tyr	Ala	Asp	Gly	Ser	Glu	Asp	Lys	
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Val	Val	Glu	Val	Ala	Glu	Glu	Glu	Glu	Val	Ala	Glu	Val	Glu	Glu	Glu	
225					230					235					240	
Glu	Ala	Asp	Asp	Asp	Glu	Asp	Asp	Glu	Asp	Gly	Asp	Glu	Val	Glu	Glu	
				245					250					255		
Glu	Ala	Glu	Glu	Pro	Tyr	Glu	Glu	Ala	Thr	Glu	Arg	Thr	Thr	Ser	Ile	
			260					265					270			
Ala	Thr	Thr	Thr	Thr	Thr	Thr	Thr	Glu	Ser	Val	Glu	Glu	Val	Val	Arg	
		275					280					285				
Glu	Val	Cys	Ser	Glu	Gln	Ala	Glu	Thr	Gly	Pro	Cys	Arg	Ala	Met	Ile	
	290					295					300					
Ser	Arg	Trp	Tyr	Phe	Asp	Val	Thr	Glu	Gly	Lys	Cys	Ala	Pro	Phe	Phe	
305					310					315					320	
Tyr	Gly	Gly	Cys	Gly	Gly	Asn	Arg	Asn	Asn	Phe	Asp	Thr	Glu	Glu	Tyr	
				325					330					335		
Cys	Met	Ala	Val	Cys	Gly	Ser	Ala	Ile	Pro	Thr	Thr	Ala	Ala	Ser	Thr	
			340					345					350			
Pro	Asp	Ala	Val	Asp	Lys	Tyr	Leu	Glu	Thr	Pro	Gly	Asp	Glu	Asn	Glu	
		355					360					365				
His	Ala	His	Phe	Gln	Lys	Ala	Lys	Glu	Arg	Leu	Glu	Ala	Lys	His	Arg	
	370					375					380					
Glu	Arg	Met	Ser	Gln	Val	Met	Arg	Glu	Trp	Glu	Glu	Ala	Glu	Arg	Gln	
385					390					395					400	
Ala	Lys	Asn	Leu	Pro	Lys	Ala	Asp	Lys	Lys	Ala	Val	Ile	Gln	His	Phe	
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003334-09200

Gln	Glu	Lys	Val 420	Glu	Ser	Leu	Glu	Gln	Glu	Ala	Ala	Asn	Glu	Arg	Gln
Gln	Leu	Val 435	Glu	Thr	His	Met	Ala 440	Arg	Val	Glu	Ala	Met 445	Leu	Asn	Asp
Arg	Arg 450	Arg	Leu	Ala	Leu	Glu 455	Asn	Tyr	Ile	Thr	Ala 460	Leu	Gln	Ala	Val
Pro 465	Pro	Arg	Pro	Arg	His 470	Val	Phe	Asn	Met	Leu 475	Lys	Lys	Tyr	Val	Arg 480
Ala	Glu	Gln	Lys	Asp 485	Arg	Gln	His	Thr	Leu 490	Lys	His	Phe	Glu	His 495	Val
Arg	Met	Val	Asp 500	Pro	Lys	Lys	Ala	Ala 505	Gln	Ile	Arg	Ser	Gln 510	Val	Met
Thr	His	Leu 515	Arg	Val	Ile	Tyr	Glu 520	Arg	Met	Asn	Gln	Ser 525	Leu	Ser	Leu
Leu	Tyr 530	Asn	Val	Pro	Ala	Val 535	Ala	Glu	Glu	Ile	Gln 540	Asp	Glu	Val	Asp
Glu 545	Leu	Leu	Gln	Lys	Glu 550	Gln	Asn	Tyr	Ser	Asp 555	Asp	Val	Leu	Ala	Asn 560
Met	Ile	Ser	Glu	Pro 565	Arg	Ile	Ser	Tyr	Gly 570	Asn	Asp	Ala	Leu	Met 575	Pro
Ser	Leu	Thr	Glu 580	Thr	Lys	Thr	Thr	Val 585	Glu	Leu	Leu	Pro	Val 590	Asn	Gly
Glu	Phe	Ser 595	Leu	Asp	Asp	Leu	Gln 600	Pro	Trp	His	Ser	Phe 605	Gly	Ala	Asp
Ser	Val 610	Pro	Ala	Asn	Thr	Glu 615	Asn	Glu	Val	Glu	Pro 620	Val	Asp	Ala	Arg
Pro 625	Ala	Ala	Asp	Arg	Gly 630	Leu	Thr	Thr	Arg	Pro 635	Gly	Ser	Gly	Leu	Thr 640
Asn	Ile	Lys	Thr	Glu 645	Glu	Ile	Ser	Glu	Val 650	Lys	Met	Asp	Ala	Glu 655	Phe
Arg	His	Asp	Ser 660	Gly	Tyr	Glu	Val	His 665	His	Gln	Lys	Leu 670	Val	Phe	Phe
Ala	Glu	Asp 675	Val	Gly	Ser	Asn	Lys 680	Gly	Ala	Ile	Ile	Gly 685	Leu	Met	Val
Gly	Gly 690	Val	Val	Ile	Ala	Thr 695	Val	Ile	Val	Ile	Thr 700	Leu	Val	Met	Leu
Lys 705	Lys	Lys	Gln	Tyr	Thr 710	Ser	Ile	His	His	Gly 715	Val	Val	Glu	Val	Asp 720
Ala	Ala	Val	Thr 725	Pro	Glu	Glu	Arg	His	Leu 730	Ser	Lys	Met	Gln	Gln 735	Asn
Gly	Tyr	Glu	Asn 740	Pro	Thr	Tyr	Lys	Phe 745	Phe	Glu	Gln	Met	Gln 750	Asn	

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<211> 2316  
<212> DNA  
<213> Homo sapiens

<400> 58  
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ctgaacatgc acatgaatgt ccagaatggg aagtgggatt cagatccatc agggaccaa 180  
acctgcattg ataccaagga aggcattcctg cagtattgcc aagaagtcta ccctgaactg 240  
cagatcacca atgtggtaga agccaaccaa ccagtgacca tccagaactg gtgcaagcgg 300  
ggccgcaagc agtgcaagac ccattccccac tttgtgattc cctaccgctg cttagtgtgt 360  
gagtttgtaa gtgatgccct tctcgttcct gacaagtgc aattcctaca ccaggagagg 420  
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aagagtacca acttgcatga ctacggcatg ttgctgccct gcggaattga caagttccga 540  
ggggtagagt ttgtgtgttg cccactggct gaagaaagtg acaatgtgga ttctgctgat 600  
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gaagccgatg atgacgagga cgatgaggat ggtgatgagg tagaggaaga ggctgaggaa 780  
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gcaatcattg gactcatggt gggcgggtgt gtcatagcga cagtgatcgt catcaccttg 2160  
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gctgtcacc cagaggagcg ccacctgtcc aagatgcagc agaacggcta cgaaaatcca 2280  
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<211> 772  
<212> PRT  
<213> Homo sapiens

<400> 59  
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Gln Ile Ala Met Phe Cys Gly Arg Leu Asn Met His Met Asn Val Gln  
35 40 45

Asn	Gly 50	Lys	Trp	Asp	Ser	Asp 55	Pro	Ser	Gly	Thr	Lys 60	Thr	Cys	Ile	Asp
Thr 65	Lys	Glu	Gly	Ile	Leu 70	Gln	Tyr	Cys	Gln	Glu 75	Val	Tyr	Pro	Glu	Leu 80
Gln	Ile	Thr	Asn	Val 85	Val	Glu	Ala	Asn	Gln 90	Pro	Val	Thr	Ile	Gln 95	Asn
Trp	Cys	Lys	Arg 100	Gly	Arg	Lys	Gln	Cys 105	Lys	Thr	His	Pro	His 110	Phe	Val
Ile	Pro	Tyr 115	Arg	Cys	Leu	Val	Gly 120	Glu	Phe	Val	Ser	Asp 125	Ala	Leu	Leu
Val	Pro 130	Asp	Lys	Cys	Lys	Phe 135	Leu	His	Gln	Glu	Arg 140	Met	Asp	Val	Cys
Glu 145	Thr	His	Leu	His	Trp 150	His	Thr	Val	Ala	Lys 155	Glu	Thr	Cys	Ser	Glu 160
Lys	Ser	Thr	Asn	Leu 165	His	Asp	Tyr	Gly	Met 170	Leu	Leu	Pro	Cys	Gly 175	Ile
Asp	Lys	Phe	Arg 180	Gly	Val	Glu	Phe	Val 185	Cys	Cys	Pro	Leu	Ala 190	Glu	Glu
Ser	Asp	Asn 195	Val	Asp	Ser	Ala	Asp 200	Ala	Glu	Glu	Asp 205	Asp	Ser	Asp	Val
Trp	Trp 210	Gly	Gly	Ala	Asp	Thr 215	Asp	Tyr	Ala	Asp	Gly 220	Ser	Glu	Asp	Lys
Val 225	Val	Glu	Val	Ala	Glu 230	Glu	Glu	Glu	Val	Ala 235	Glu	Val	Glu	Glu	Glu 240
Glu	Ala	Asp	Asp	Asp 245	Glu	Asp	Asp	Glu	Asp 250	Gly	Asp	Glu	Val	Glu 255	Glu
Glu	Ala	Glu	Glu 260	Pro	Tyr	Glu	Glu	Ala 265	Thr	Glu	Arg	Thr	Thr 270	Ser	Ile
Ala	Thr	Thr 275	Thr	Thr	Thr	Thr	Thr 280	Glu	Ser	Val	Glu	Glu 285	Val	Val	Arg
Glu	Val 290	Cys	Ser	Glu	Gln	Ala 295	Glu	Thr	Gly	Pro	Cys 300	Arg	Ala	Met	Ile
Ser 305	Arg	Trp	Tyr	Phe	Asp 310	Val	Thr	Glu	Gly	Lys 315	Cys	Ala	Pro	Phe	Phe 320
Tyr	Gly	Gly	Cys	Gly 325	Gly	Asn	Arg	Asn	Asn 330	Phe	Asp	Thr	Glu	Glu 335	Tyr
Cys	Met	Ala	Val 340	Cys	Gly	Ser	Ala	Met 345	Ser	Gln	Ser	Leu	Leu 350	Lys	Thr
Thr	Gln	Glu 355	Pro	Leu	Ala	Arg	Asp 360	Pro	Val	Lys	Leu	Pro 365	Thr	Thr	Ala
Ala	Ser 370	Thr	Pro	Asp	Ala	Val 375	Asp	Lys	Tyr	Leu	Glu 380	Thr	Pro	Gly	Asp

Glu 385	Asn	Glu	His	Ala	His 390	Phe	Gln	Lys	Ala	Lys 395	Glu	Arg	Leu	Glu	Ala 400
Lys	His	Arg	Glu	Arg 405	Met	Ser	Gln	Val	Met 410	Arg	Glu	Trp	Glu	Glu 415	Ala
Glu	Arg	Gln	Ala 420	Lys	Asn	Leu	Pro	Lys 425	Ala	Asp	Lys	Lys	Ala 430	Val	Ile
Gln	His	Phe 435	Gln	Glu	Lys	Val	Glu 440	Ser	Leu	Glu	Gln	Glu 445	Ala	Ala	Asn
Glu	Arg 450	Gln	Gln	Leu	Val	Glu 455	Thr	His	Met	Ala	Arg 460	Val	Glu	Ala	Met
Leu 465	Asn	Asp	Arg	Arg 470	Arg	Leu	Ala	Leu	Glu	Asn 475	Tyr	Ile	Thr	Ala	Leu 480
Gln	Ala	Val	Pro	Pro 485	Arg	Pro	Arg	His	Val 490	Phe	Asn	Met	Leu	Lys 495	Lys
Tyr	Val	Arg	Ala 500	Glu	Gln	Lys	Asp	Arg 505	Gln	His	Thr	Leu	Lys 510	His	Phe
Glu	His	Val 515	Arg	Met	Val	Asp	Pro 520	Lys	Lys	Ala	Ala	Gln 525	Ile	Arg	Ser
Gln 530	Val	Met	Thr	His	Leu	Arg 535	Val	Ile	Tyr	Glu	Arg 540	Met	Asn	Gln	Ser
Leu 545	Ser	Leu	Leu	Tyr	Asn 550	Val	Pro	Ala	Val	Ala 555	Glu	Glu	Ile	Gln	Asp 560
Glu	Val	Asp	Glu	Leu 565	Leu	Gln	Lys	Glu	Gln 570	Asn	Tyr	Ser	Asp	Asp 575	Val
Leu	Ala	Asn	Met 580	Ile	Ser	Glu	Pro	Arg 585	Ile	Ser	Tyr	Gly	Asn 590	Asp	Ala
Leu	Met	Pro 595	Ser	Leu	Thr	Glu	Thr 600	Lys	Thr	Thr	Val	Glu 605	Leu	Leu	Pro
Val 610	Asn	Gly	Glu	Phe	Ser	Leu 615	Asp	Asp	Leu	Gln	Pro 620	Trp	His	Ser	Phe
Gly 625	Ala	Asp	Ser	Val	Pro 630	Ala	Asn	Thr	Glu	Asn 635	Glu	Val	Glu	Pro	Val 640
Asp	Ala	Arg	Pro	Ala 645	Ala	Asp	Arg	Gly	Leu 650	Thr	Thr	Arg	Pro	Gly 655	Ser
Gly	Leu	Thr	Asn 660	Ile	Lys	Thr	Glu	Glu 665	Ile	Ser	Glu	Val	Lys 670	Met	Asp
Ala	Glu	Phe 675	Arg	His	Asp	Ser	Gly 680	Tyr	Glu	Val	His 685	His	Gln	Lys	Leu
Val 690	Phe	Phe	Ala	Glu	Asp	Val 695	Gly	Ser	Asn	Lys	Gly 700	Ala	Ile	Ile	Gly
Leu 705	Met	Val	Gly	Gly	Val 710	Val	Ile	Ala	Thr	Val 715	Ile	Val	Ile	Thr	Leu 720

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<210> 61
<211> 753
<212> PRT
<213> Homo sapiens
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<400> 61
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 20          25          30

Gln Ile Ala Met Phe Cys Gly Arg Leu Asn Met His Met Asn Val Gln
 35          40          45

Asn Gly Lys Trp Asp Ser Asp Pro Ser Gly Thr Lys Thr Cys Ile Asp
 50          55          60

Thr Lys Glu Gly Ile Leu Gln Tyr Cys Gln Glu Val Tyr Pro Glu Leu
 65          70          75          80

Gln Ile Thr Asn Val Val Glu Ala Asn Gln Pro Val Thr Ile Gln Asn
 85          90          95

Trp Cys Lys Arg Gly Arg Lys Gln Cys Lys Thr His Pro His Phe Val
100          105          110

Ile Pro Tyr Arg Cys Leu Val Gly Glu Phe Val Ser Asp Ala Leu Leu
115          120          125

Val Pro Asp Lys Cys Lys Phe Leu His Gln Glu Arg Met Asp Val Cys
130          135          140

Glu Thr His Leu His Trp His Thr Val Ala Lys Glu Thr Cys Ser Glu
145          150          155          160

Lys Ser Thr Asn Leu His Asp Tyr Gly Met Leu Leu Pro Cys Gly Ile
165          170          175

Asp Lys Phe Arg Gly Val Glu Phe Val Cys Cys Pro Leu Ala Glu Glu
180          185          190

Ser Asp Asn Val Asp Ser Ala Asp Ala Glu Glu Asp Asp Ser Asp Val
195          200          205

Trp Trp Gly Gly Ala Asp Thr Asp Tyr Ala Asp Gly Ser Glu Asp Lys
210          215          220

Val Val Glu Val Ala Glu Glu Glu Glu Val Ala Glu Val Glu Glu Glu
225 '          230          235          240

Glu Ala Asp Asp Asp Glu Asp Asp Glu Asp Gly Asp Glu Val Glu Glu
245          250          255

Glu Ala Glu Glu Pro Tyr Glu Glu Ala Thr Glu Arg Thr Thr Ser Ile
260          265          270

Ala Thr Thr Thr Thr Thr Thr Thr Glu Ser Val Glu Glu Val Val Arg
275          280          285

Glu Val Cys Ser Glu Gln Ala Glu Thr Gly Pro Cys Arg Ala Met Ile
290          295          300

Ser Arg Trp Tyr Phe Asp Val Thr Glu Gly Lys Cys Ala Pro Phe Phe
305          310          315          320

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002261-1000



Tyr	Gly	Gly	Cys	Gly	Gly	Asn	Arg	Asn	Asn	Phe	Asp	Thr	Glu	Glu	Tyr	325	330	335
Cys	Met	Ala	Val	Cys	Gly	Ser	Ala	Ile	Pro	Thr	Thr	Ala	Ala	Ser	Thr	340	345	350
Pro	Asp	Ala	Val	Asp	Lys	Tyr	Leu	Glu	Thr	Pro	Gly	Asp	Glu	Asn	Glu	355	360	365
His	Ala	His	Phe	Gln	Lys	Ala	Lys	Glu	Arg	Leu	Glu	Ala	Lys	His	Arg	370	375	380
Glu	Arg	Met	Ser	Gln	Val	Met	Arg	Glu	Trp	Glu	Glu	Ala	Glu	Arg	Gln	385	390	400
Ala	Lys	Asn	Leu	Pro	Lys	Ala	Asp	Lys	Lys	Ala	Val	Ile	Gln	His	Phe	405	410	415
Gln	Glu	Lys	Val	Glu	Ser	Leu	Glu	Gln	Glu	Ala	Ala	Asn	Glu	Arg	Gln	420	425	430
Gln	Leu	Val	Glu	Thr	His	Met	Ala	Arg	Val	Glu	Ala	Met	Leu	Asn	Asp	435	440	445
Arg	Arg	Arg	Leu	Ala	Leu	Glu	Asn	Tyr	Ile	Thr	Ala	Leu	Gln	Ala	Val	450	455	460
Pro	Pro	Arg	Pro	Arg	His	Val	Phe	Asn	Met	Leu	Lys	Lys	Tyr	Val	Arg	465	470	475
Ala	Glu	Gln	Lys	Asp	Arg	Gln	His	Thr	Leu	Lys	His	Phe	Glu	His	Val	485	490	495
Arg	Met	Val	Asp	Pro	Lys	Lys	Ala	Ala	Gln	Ile	Arg	Ser	Gln	Val	Met	500	505	510
Thr	His	Leu	Arg	Val	Ile	Tyr	Glu	Arg	Met	Asn	Gln	Ser	Leu	Ser	Leu	515	520	525
Leu	Tyr	Asn	Val	Pro	Ala	Val	Ala	Glu	Glu	Ile	Gln	Asp	Glu	Val	Asp	530	535	540
Glu	Leu	Leu	Gln	Lys	Glu	Gln	Asn	Tyr	Ser	Asp	Asp	Val	Leu	Ala	Asn	545	550	555
Met	Ile	Ser	Glu	Pro	Arg	Ile	Ser	Tyr	Gly	Asn	Asp	Ala	Leu	Met	Pro	565	570	575
Ser	Leu	Thr	Glu	Thr	Lys	Thr	Thr	Val	Glu	Leu	Leu	Pro	Val	Asn	Gly	580	585	590
Glu	Phe	Ser	Leu	Asp	Asp	Leu	Gln	Pro	Trp	His	Ser	Phe	Gly	Ala	Asp	595	600	605
Ser	Val	Pro	Ala	Asn	Thr	Glu	Asn	Glu	Val	Glu	Pro	Val	Asp	Ala	Arg	610	615	620
Pro	Ala	Ala	Asp	Arg	Gly	Leu	Thr	Thr	Arg	Pro	Gly	Ser	Gly	Leu	Thr	625	630	635
Asn	Ile	Lys	Thr	Glu	Glu	Ile	Ser	Glu	Val	Lys	Met	Asp	Ala	Glu	Phe	645	650	655

002260" 47E3960

Lys

<220>  
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<211> 10
<212> PRT
<213> Artificial Sequence
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<220>  
<223> Description of Artificial Sequence: synthetic

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$\langle 211 \rangle$	15

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic

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<210> 66

<211> 518

<212> PRT

<213> Homo sapiens

<400> 66

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Leu Leu Arg Ala Ala Pro Glu Leu Ala Pro Ala Pro Phe Thr Leu Pro  
20 25 30

Leu Arg Val Ala Ala Ala Thr Asn Arg Val Val Ala Pro Thr Pro Gly  
35 40 45

Pro Gly Thr Pro Ala Glu Arg His Ala Asp Gly Leu Ala Leu Ala Leu  
50 55 60

Glu Pro Ala Leu Ala Ser Pro Ala Gly Ala Ala Asn Phe Leu Ala Met  
65 70 75 80

Val Asp Asn Leu Gln Gly Asp Ser Gly Arg Gly Tyr Tyr Leu Glu Met  
85 90 95

Leu Ile Gly Thr Pro Pro Gln Lys Leu Gln Ile Leu Val Asp Thr Gly  
100 105 110

Ser Ser Asn Phe Ala Val Ala Gly Thr Pro His Ser Tyr Ile Asp Thr  
115 120 125

Tyr Phe Asp Thr Glu Arg Ser Ser Thr Tyr Arg Ser Lys Gly Phe Asp  
130 135 140

Val Thr Val Lys Tyr Thr Gln Gly Ser Trp Thr Gly Phe Val Gly Glu  
145 150 155 160

Asp Leu Val Thr Ile Pro Lys Gly Phe Asn Thr Ser Phe Leu Val Asn  
165 170 175

Ile Ala Thr Ile Phe Glu Ser Glu Asn Phe Phe Leu Pro Gly Ile Lys  
180 185 190

Trp Asn Gly Ile Leu Gly Leu Ala Tyr Ala Thr Leu Ala Lys Pro Ser  
195 200 205

Ser Ser Leu Glu Thr Phe Phe Asp Ser Leu Val Thr Gln Ala Asn Ile  
210 215 220

Pro Asn Val Phe Ser Met Gln Met Cys Gly Ala Gly Leu Pro Val Ala  
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<212> PRT
<213> Homo sapiens
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Leu	Arg	Val 35	Ala	Ala	Ala	Thr	Asn 40	Arg	Val	Val	Ala	Pro 45	Thr	Pro	Gly
Pro	Gly 50	Thr	Pro	Ala	Glu	Arg 55	His	Ala	Asp	Gly	Leu 60	Ala	Leu	Ala	Leu
Glu 65	Pro	Ala	Leu	Ala	Ser 70	Pro	Ala	Gly	Ala	Ala 75	Asn	Phe	Leu	Ala	Met 80
Val	Asp	Asn	Leu	Gln 85	Gly	Asp	Ser	Gly	Arg 90	Gly	Tyr	Tyr	Leu	Glu 95	Met
Leu	Ile	Gly	Thr 100	Pro	Pro	Gln	Lys	Leu 105	Gln	Ile	Leu	Val	Asp 110	Thr	Gly
Ser	Ser	Asn 115	Phe	Ala	Val	Ala	Gly 120	Thr	Pro	His	Ser	Tyr 125	Ile	Asp	Thr
Tyr	Phe 130	Asp	Thr	Glu	Arg	Ser 135	Ser	Thr	Tyr	Arg	Ser 140	Lys	Gly	Phe	Asp
Val 145	Thr	Val	Lys	Tyr	Thr 150	Gln	Gly	Ser	Trp	Thr 155	Gly	Phe	Val	Gly	Glu 160
Asp	Leu	Val	Thr 165	Ile	Pro	Lys	Gly	Phe 170	Asn	Thr	Ser	Phe	Leu	Val 175	Asn
Ile	Ala	Thr	Ile 180	Phe	Glu	Ser	Glu 185	Asn	Phe	Phe	Leu	Pro	Gly 190	Ile	Lys
Trp	Asn	Gly 195	Ile	Leu	Gly	Leu	Ala 200	Tyr	Ala	Thr	Leu	Ala 205	Lys	Pro	Ser
Ser	Ser 210	Leu	Glu	Thr	Phe	Phe 215	Asp	Ser	Leu	Val	Thr 220	Gln	Ala	Asn	Ile
Pro 225	Asn	Val	Phe	Ser	Met 230	Gln	Met	Cys	Gly	Ala 235	Gly	Leu	Pro	Val	Ala 240
Gly	Ser	Gly	Thr	Asn 245	Gly	Gly	Ser	Leu	Val 250	Leu	Gly	Gly	Ile	Glu 255	Pro
Ser	Leu	Tyr	Lys 260	Gly	Asp	Ile	Trp 265	Tyr	Thr	Pro	Ile	Lys	Glu 270	Glu	Trp
Tyr	Tyr	Gln 275	Ile	Glu	Ile	Leu	Lys 280	Leu	Glu	Ile	Gly	Gly 285	Gln	Ser	Leu
Asn	Leu 290	Asp	Cys	Arg	Glu	Tyr 295	Asn	Ala	Asp	Lys	Ala 300	Ile	Val	Asp	Ser
Gly 305	Thr	Thr	Leu	Leu	Arg 310	Leu	Pro	Gln	Lys	Val 315	Phe	Asp	Ala	Val	Val 320
Glu	Ala	Val	Ala	Arg 325	Ala	Ser	Leu	Ile	Pro 330	Glu	Phe	Ser	Asp	Gly 335	Phe
Trp	Thr	Gly 340	Ser	Gln	Leu	Ala	Cys 345	Trp	Thr	Asn	Ser	Glu	Thr 350	Pro	Trp

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002220 "4" 002220

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<213> Artificial Sequence

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15

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